



Title

**QUANTITATIVE ANALYSIS OF THE WEAR AND WEAR DEBRIS
FROM LOW AND HIGH CARBON CONTENT COBALT CHROME ALLOYS
USED IN METAL ON METAL TOTAL HIP REPLACEMENTS**

Authors

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Purpose/Premise

This article reports on a study designed to assess how the carbon content of Co-Cr alloys affects wear performance and the morphology of wear debris.

Material and Methods

Uniaxial and biaxial multistation pin on plate reciprocators were used to test wrought Co-Cr samples with different carbon content.

Outcomes

The low-carbon samples showed higher wear rates than the mixed-carbon and high-carbon pairings, but the wear particles were larger. Biaxial motion decreased the wear rates of all samples.

Conclusion/Recommendation

The authors concluded that the carbon content, the material combinations, and the type of motion affected the volumetric wear rates of the samples.

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